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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,939	12/03/2003	Wen-Bin Yan	TGR-106US	6990
23122	7590	02/28/2006	EXAMINER	
RATNERPRESTIA P O BOX 980 VALLEY FORGE, PA 19482-0980				ROSENBERGER, RICHARD A
			ART UNIT	PAPER NUMBER
			2877	

DATE MAILED: 02/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/727,939	YAN, WEN-BIN	
	Examiner Richard A. Rosenberger	Art Unit 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 1,2 and 4-20 is/are allowed.
- 6) Claim(s) \_\_\_\_\_ is/are rejected.
- 7) Claim(s) 3 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____ .  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/15/2004</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____ .                                  |

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 4-6, 12,13, 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Paldus et al (US 6,452,680).

As in independent claim 1, Paldus et al shows, in particular in relation to figure 5, a cavity ring-down system with a light source (25 in figure 2), two mirrors (61-1; 61-2) as claimed, a first liquid supply (shown as 55A in figure 4), and a detector (35 in figure 2). Cavity ring-down spectroscopy systems operate by determining the decay rate of the light within the cell based upon the light passing through the sample (column 10, line 36).

Similarly for independent claims 12 and 20.

Paldus et al discusses the presence of a polarizer (27 in figure 2) between the light source and the cell, as in claims 2 and 13.

As in claim 4, in the embodiment of figure 5 of Paldus et al, the cell is substantially open.

Paldus et al discusses placing the sample and sample holder so the light strikes the sample at substantially the Brewster's to reduce reflections at the interface angle (column 4, lines 62-64), as in claims 5, 6, and 17-19.

4. Claims 7-9, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paldus et al (US 6,452,680) in view of Tsuruta et al (US 3,770,354) for claims 8 and 15, and in view of Ostrander et al (US 6,368,560) for claims 9 and 16.

See above for a discussion of Paldus et al.

The reference to Paldus et al teaches using an appropriate processor (the "measurement mechanism" of column 10, line 34). The use of such a processor to perform the known function of determining the concentration of substances in the sample would have been obvious.

Paldus et al does not disclose the particular manners of the claims of obtaining the concentration of an impurity being tested for. It would have been obvious to use known manners of doing this, such as finding the difference between on-peak and off-peak measurements (claims 8 and 15) as shown in Tsuruta et al (See figure 1 in particular) and the use of whole peak profile measurements (claims 9 and 16) as shown by Ostrander et al ("the integrated area under each peak" as discussed in column 1, lines 52-53).

5. Claims 10, 11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paldus et al (US 6,452,680) in view of Wu et al (US 6,040,915).

See above for a discussion of Paldus et al. Paldus does not appear to teach the use of a second reference channel. It is known in the art to use a second reference channel when measuring a sample for an impurity; see Wu et al. It would have been obvious to use such a known reference cell with other samples and other types of optical measurements, such as the measurement of Paldus et al, in order to obtain the art-recognized benefits of such reference measurements.

6. Claim 3 contains allowable subject matter. The art does not appear to teach of suggest a cavity ring-down system in which a liquid stream “is projected freely into the cell”. Note the instant specification, page 8, last two lines, for a definition of “in a free state”; it is taken that “freely” in claim 3 means “in a free state” as defined in the specification. Note also the paragraph bridging pages 5 and 6 of the specification, which also discusses the “free stream”. Claim 3 is objected to as being dependent from an unallowed claim, but would be allowable if rewritten in independent form including all of the limitations of its parent claim.

7. Bechtel et al (US 2004/0207852) shows a system similar to that of Paldus et al, applied above.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard A Rosenberger whose telephone number is (571) 272-2428. The examiner can normally be reached on Monday through Friday during the hours of 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

R. A. Rosenberger  
21 February 2006

Richard A. Rosenberger  
Primary Examiner